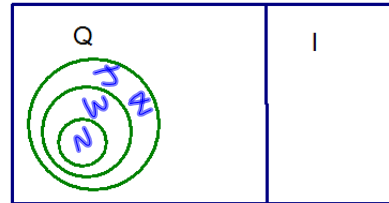


### 1.3-1.5 Notes (not in summer packet)

#### Symbols for Number Sets

Real  $\mathbb{R}$   
 Rational  $\mathbb{Q}$   
 Irrational  $\mathbb{I}$   
 Integer  $\mathbb{Z}$   
 Whole  $\mathbb{W}$   
 Natural  $\mathbb{N}$

Complete the Venn diagram: The rectangle represents all real numbers,  $\mathbb{R}$ .



Aug 30-12:27 PM

Aug 30-1:20 PM

#### More Properties

Reflexive

$$a = a$$

Symmetric

$$\text{If } a = b, \text{ then } b = a$$

Transitive

$$\text{If } a = b \text{ and } b = c, \text{ then } a = c.$$

#### More Properties

— Substitution — If  $a = b$ , then  $a$  can replace  $b$  or  $b$  can replace  $a$

Addition

Subtraction

Multiplication

Division

— "Combine like terms" —

ex:

$$\text{If } a = b \text{ then } a + c = b + c$$

You can change the operator

addition prop. of equality

Aug 30-12:29 PM

Aug 30-12:29 PM

Name the property that justifies the statement.

1.  $(-8 + 8) + 15 = 0 + 15$  Add Inv.
2.  $5(8 - 6) = 5(8) - 5(6)$  Distr.
3.  $3 + 4 = 4 + 3$  Commut.
4.  $5 + x = 5 + x$  Refl.
5. If  $3 + x = 8$ , and  $8 = 2x - 2$ , then  $3 + x = 2x - 2$ . Transitive
6.  $(9 + 5) + 17 = 9 + (5 + 17)$  Assoc.
7. If  $2 - x = 4$ , then  $4 = 2 - x$ . Symm.
8.  $9 \cdot \frac{1}{9} = 1$  Mult. Inv.
9. If  $3x + 8x = 55$ , then  $11x = 55$  Subst.
10. If  $3x + 8 = 32$ , then  $3x = 24$  Subtr.

Aug 30-12:34 PM